

# Memorandum

To: Chair Robert B. Weisenmiller,  
Robert Oglesby, Executive Director

Date: May 30, 2012

Via: Sylvia Bender, Deputy Director

From: Christopher McLean  
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Subject: ***Renewal of the PLEXOS Production Cost Modeling Software***

The Electricity Analysis Office (EAO) requests approval from the Commission at the June 13, 2012 Business Meeting for the expenditure of budgeted funds enabling the renewal and extension of an existing license to the PLEXOS production cost modeling and simulation software developed by Energy Exemplar. The present annual cost of renewal through June 2013 stands at \$91,300. The EAO requests expenditure of budgeted FY 2011-2012 ERPA funds for software relicense through June 2013.

**Background:** The PLEXOS production cost modeling and simulation software facilitates model development critical to EAO electricity system studies. The tool enables evaluation of multiple resource development scenarios in support of the IEPR and other related studies, such as once-through-cooling assessments and renewable integration evaluations.

The EAO first licensed the PLEXOS software in June 2011 and has undertaken the task of transferring data and capabilities from the previous modeling platform to the PLEXOS modeling environment. Since the California ISO uses the PLEXOS software for its renewable integration studies, the license to the PLEXOS software has afforded EAO with deeper evaluation capabilities in the California ISO renewable integration studies venue than many other stakeholders.

**Proposal:** EAO proposes to continue licensed use of this valuable simulation tool by way of renewal. The next step of the renewal process is payment of the vendor-issued-invoice through the usual Commission internal purchase request channel, per the Form 500.

This license renewal is for one year for three staff persons. Completion of the approval and signature process will yield a paid invoice and valid licenses through June 2013.

**Benefits / Justification:** EAO faces a continuing need for electricity system simulation tools to study the implications of different resource development goals and associated uncertainties. The PLEXOS software provides staff with greater flexibility to evaluate a larger

number of scenarios, consider stochastic variables, and better characterize electricity system operations.

The models developed with this software employ sophisticated algorithms for pumped storage, variable energy production, and stochastic modeling. This tool is more flexible than other simulation tools, allowing staff to conduct low resolution studies and to run multiple scenarios in a faster mode and identify the relevant uncertainties that can later be applied to run more detailed simulations.

Further, other organizations in the Western Interconnection employ PLEXOS. Licensing this tool and continuing to expand the PLEXOS staff user skill set is expected to prove valuable in many of these West-wide venues, including the California ISO, the CPUC and the National Labs.

cc: Ivin Rhyne  
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